

## **CLAIMS**

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

- 1           1.       (Currently amended)     A rate adaptive system for optical fibre-  
2 based communication networks comprising:  
3           a plurality of optical transceivers capable of transmitting and receiving optical  
4 signals at a plurality of rates to each other, and  
5           an optical fibre linked to said optical transceivers, said system configured to  
6 cause said optical transceivers to transmit and receive optical signals at an initial rate  
7 and to adapt said initial rate based upon an error condition responsive to ~~an optical~~  
8 ~~signal parameter~~ a failure to synchronize a received signal to a transmitted signal by  
9 causing said optical transceivers to transmit and receive at a different rate, ~~wherein~~ a  
10 rate of data being forwarded per unit time ~~is~~ being adjusted by inserting invalid data  
11 which can be identified and ignored by a downstream process, wherein said initial  
12 rate is lowered according to a predefined percentage of said initial rate in response to  
13 said failure to synchronize a received signal to a transmitted signal to avoid the  
14 overhead associated with auto-negotiation methods that operate over a control  
15 channel.
- 1           2.       (Canceled)
- 1           3.       (Previously presented)     The system of claim 1, wherein said system  
2 is further configured to calculate an error coefficient based on said received signals,  
3 and said error condition comprise said error coefficient exceeding a predefined range.
- 1           4.       (Canceled)
- 1           5.       (Currently amended)     The system of claim 4 1, wherein said  
2 percentages are selected from the group of 75, 50 and or 25 percent of said initial rate.

1           6.       (Previously presented)   The system of claim 1, wherein said initial  
2   rate is 10 Gb/s.

1           7.       (Previously presented)   The system of claim 1, wherein said system  
2   is configured to operate in an optical Ethernet network.

1           8.       (Previously presented)   The system of claim 1, wherein said system  
2   is further configured to notify a network operator in the event of said error condition.

1           9.       (Currently amended)    A rate adaptive method for operating an  
2   optical communication network, comprising:  
3       transmitting data at an initial rate,  
4       receiving said data at said initial rate,  
5       evaluating said data responsive to a failure to synchronize a received signal to  
6   a transmitted signal ~~parameter observed on an optical signal~~ to determine if an error  
7   condition exists, and  
8       adapting said rate based upon said evaluation by transmitting and receiving at  
9   a different rate, ~~wherein transmitting and receiving comprises~~ by inserting invalid  
10   data which can be identified and ignored by a downstream process, wherein adapting  
11   said rate comprises lowering said initial rate according to predefined percentages of  
12   said initial rate in response to said failure to synchronize a received signal to a  
13   transmitted signal to avoid the overhead associated with auto-negotiation over a  
14   control channel.

1           10.      (Canceled)

1           11.      (Currently amended)    The method of claim ~~40~~ 9, further  
2   comprising notifying a network operator in the event of said error condition.

1           12.-13.   (Canceled)

1           14.     (New)           The system of claim 1, wherein said system is further  
2     configured to identify a link in the optical fibre-based communication networks for an  
3     upgrade.

1           15.     (New)           The method of claim 9, further comprising identifying a  
2     link in the optical communication network for an upgrade.